pulmonary circulation was understood so far as above described, but its relation to the systemic circulation was unknown. The action of the heart as a propulsive organ was not recognized. It was not until 1628 that Harvey announced his views to the world by publishing his treatise *De Motu Cordis et Sanguinis*. His conclusions are given in the following celebrated passage:

"And now I may be allowed to give in brief my view of the circulation of the blood, and to propose it for general adoption. Since all things, both argument and ocular demonstration, show that the blood passes through the lungs and heart by the auricles and ventricles, and is sent for distribution to all parts of the body, where it makes its way into the veins and pores of the flesh, and then flows by the veins from the circumference on every side to the centre, from lesser to the greater veins, and is by them finally discharged into the vena cava and right auricle of the heart, and this in such a quantity, or in such a flux and reflux, thither by the arteries, hither by the veins, as cannot possibly be supplied by the ingestor, and is much greater than can be required for mere purposes of nutrition, it is absolutely necessary to conclude that the blood in the animal body is impelled in a *circle,* and is in a state of ceaseless motion; that this is the act or function which the heart performs by means of its pulse; and that it is the sole and only end of the motion and contraction of the heart." (Book X, ch. xiv, p. 68.)

The only figures included by Harvey in his great book were taken from his master's *De Venarum Ostiolis.*

(To be continued)

CLINICAL NOTES AND CASE REPORTS

A NEW METHOD OF PROSTATECTOMY

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THE following preliminary notes on a new procedure for prostatectomy are submitted:

Procedure.—A No. 18 Fr. sound is inserted into the bladder and a suprapubic incision is made over the "Cave of Retzius," which is extravesicular. The bladder is mobilized anteriorly and displaced upward, which exposes the capsule of the prostate gland. The capsule of the prostate is incised for one-half an inch longitudinally, beginning one-quarter of an inch below the bladder. Two hemostats are inserted transversely on each side of the capsule, which is incised between the hemostats. The inferior portion of the capsule is sutured to prevent bleeding, and the hemostats removed. The superior portion of the capsule is displaced upward, carrying the bladder with it, thereby exposing the prostate. The upper two-thirds of the prostate is freed from its capsule by blunt dissection with the finger. The prostatic lobes are removed separately by excision.

Care must be used to avoid accidental opening into the prostatic urethra, which may be a third of an inch in diameter and fusiform in shape in this region.

The bladder is returned to its normal position and sutured to the posterior surface of the pubes. The abdominal wall is closed in layers. A retention catheter is allowed to remain for several days for urinary drainage and lavage. The advantages of the operation are:

1. There is no solution of the continuity of the urethra.
2. Drainage of the surgical wound is unnecessary.
3. Damage to the seminal vesicles is avoided.
4. The ejaculatory ducts are preserved.
5. Absence of shock and hemorrhage.
6. Ease of adequate exposure of prostate.
7. Hospitalization is shortened.

PHYSOMETRA

REPORT OF CASE

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PHYSOMETRA, or gas in the cavity of the uterus, is a rather unusual and startling occurrence. It has been described by Kelly [1] as follows:

"Enlargement of the uterus sometimes follows a cervical operation or occurs in the course of cervical disease, and should always be borne in mind. While this may be due to the extension of growth, it is also frequently the result of a stenosis, with the retention of blood, pus, or gas (physometra), or a combination of these. We are seeing more of these heretofore rare affections since the advent of radium in cervical carcinoma. If a patient has lower median pain she has not felt before some rise in temperature, it is often well to pass an instrument, say a curved artery forceps into the uterus and open it, watching to see whether there is any discharge. A physometra is often explosive in its escape. If there is retention it must be given free exit and watched from time to time."

Hector [2] states:

" . . . Most of the reported cases of physometra (gas in the uterine cavity) have been associated with septic abortions or other complications of the puerperium. In such cases the symptoms are grave and the issue usually fatal. The organisms concerned are frequently *B. welchii,* anaërobic streptococci, and *B. coli.*" Operation in the case quoted by him, "showed a uterus containing multiple fibroids of varying sizes, some cystic, some calcareous. The uterine cavity was distended and fluctuating. On opening the uterine cavity a considerable quantity of gas escaped with a 'hiss,' followed by one and a half pints of pus with the odor of *B. coli,*" . . . there was also present an adenocarcinoma of the corpus.

When the cervical canal is occluded,[3] the uterine cavity is gradually filled with pent-up secretions. If putrefaction with gas has occurred, it is called physometra.

Sleeman [4] gives an uncommon case of physometra, referring to eight others of his own notice, with the clinical picture of *B. welchii* septicemia, extreme anemias (680,000 red cells per cubic millimeter) and in which particular case instrumental interference was suspected but unproven, with a rapidly fatal outcome.

Ottow [5] records a case due to the secondary infection of a large piece of retained placenta; and Doederlein [6] a case of acute anteflexion due to an old ventrofixation occluding the cervical canal and preventing normal delivery, with secondary infection in the lacerated tissues, causing physometra; while Frank [7] states that physometra may develop if gas-producing organisms penetrate secondarily in any gynecologic or obstetric condition.

REPORT OF CASE

Mrs. ———, a widow, age thirty-six, who had always been in good health, was referred to us for pain in both inguinal regions, over the sacrum, in the bladder, which was accompanied by a rather profuse foul-smelling discharge. There had been no bleeding other than the normal menstrual amount.

The patient stated that shortly after her last period, ten days previously, she began, for the first time, to have pain low down in her sides and the discharge which had gradually increased and assumed the odor complained of. She had been in bed for the last two days with a slight temperature, she believed, as she had not summoned a physician. She has been widowed two years, and has one child six years of age whose birth history is normal. She states that her sexual and menstrual life have always been normal.

She admitted occasional sexual contact; states that she had missed no periods. She was very critically questioned as to interrupted pregnancy, but denied it definitely.

Examination at home, revealed a well-built young female apparently not very ill, lying comfortably in bed. Temperature was 99.6; pulse, 115; and with no remarkable physical findings except the following: Some slight tenderness over the pubis and in both inguinal regions, but no rigidity; the uterus just palpable at the pubis, but abdominally not tender. Her outlet showed a moderate relaxation, but no cystocele or rectocele; the urethral orifice was negative.

Vaginal examination showed some tenderness in both adnexa, but no masses. There was a slight erosion on the posterior lip of the cervix, a moderate discharge which had the combined odor of *B. coli* and putrefaction; the uterus appeared about twice its normal size to palpation.

The diagnosis of erosion, endocervicitis, and probable low-grade subacute pelvic inflammatory was made. She was placed upon expectant treatment and P. M. C. douches and told to report to the office when able.

Three days later, in the office, because of the discharge and its odor, a sterile swab was inserted into the cervical canal for the purpose of making smears. There was a slight resistance just within the external os which when overcome suddenly released a small amount of gas, foul-smelling and accompanied by a decidedly audible "hiss." After appropriate preparation a sterile probe was inserted further into the uterine canal, with a repetition of the same phenomenon. The diagnosis of physometra, as an accompaniment of multiple strictures due to a partially obliterating endocervicitis, was added.

Laboratory Report.—The following laboratory report is presented through the courtesy of the Mount Zion Hospital clinical laboratorv.

Twenty-four-hour culture of material from cervix and uterine canal: *B. coli,* four plus; *Streptococcus haemolyticus,* two plus; *Streptococcus viridans,* two plus (green pigment forming colonies); Gram-negative diplococci, two plus (*M. catarrhalis* ?).

A moderate cervical dilatation was performed in the office, and further treatment was conservative. The cervical canal was cleaned out three times weekly with hydrogen peroxid and followed with a tampon impregnated with 0.2 per cent formalin in pure glycerin, and she was instructed to use the standard P. M. C. hot douche at least three times daily. She was also given capsules of quinin, grains five, and ergotin, grains one, three times a day after meals to restore uterine tone.

Her discomfort and fever disappeared almost immediately, and she has remained free from such as well as the odor for the past two weeks. Her uterus is normal size; and although there have been no symptoms or signs of malignancy she has been advised to have a diagnostic curettage, with cauterization of the cervix.

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REFERENCES

1. Kelly: Gynecology, Chap. XVI, p. 264, 1928.
2. Hector: Brit. M. J., 1:1158 (June 29), 1929.
3. Hirst: Manual of Gynec., second edition, p. 166, 1925.
4. Sleeman: M. J. Australia, 2:367 (July to December), 1927.
5. Ottow: Ztschr. f. Geburtsh., Bd. 98, p. 409, 1930.
6. Veit-Stockel: Handb. für Gynak, Dritte Auflage. Fünfter Band., 1 hälfte, p. 935.
7. Frank: Gynec. and Obst., Mono., p. 184.

PERFORATED GASTRIC ULCER IN A PATIENT WITH TABES DORSALIS

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ACUTE upper abdominal pain in a patient with known tabes dorsalis, especially if accompanied by vomiting, usually is interpreted as due to a gastric crisis. Coincident occurrence of an acute abdominal surgical condition with tabes is rare, but failure to recognize such coincidence in these patients is disastrous.

We report the following case primarily because of its relative rarity, secondarily to emphasize the necessity of a rigid diagnostic scrutiny of every tabetic patient with severe abdominal pain.

REPORT OF CASE

Mr. D. B. S., age forty-two, had been diagnosed as having tabes dorsalis for ten years, with the usual findings of a sluggish pupillary light reflex, absent patellar reflexes, incoördinate gait, and a strongly positive blood Wassermann reaction. He had suffered intermittently for years with some postprandial epigastric distress, which he had interpreted as due to his blood disease. About six months previous to his present sickness he was seized with severe epigastric pain and vomiting. He was seen by two physicians, and a diagnosis made of a gastric crisis. He was relieved by a hypodermic of morphin, and in a few days was apparently as well as ever.

On October 29, 1926, he had some dull epigastric distress and took nothing but liquids. About eleven at night he suffered an acute attack of mid-epigastric pain. He did not vomit immediately, but, believing vomiting would relieve him, took some fluid extract of ipecac and vomited some "brownish liquid" in the toilet. This was not saved. He was seen at twelve midnight. At this time there was slight rigidity of the upper right rectus muscle. The temperature and pulse rate were normal. He did not appear to be in acute pain.

In view of his known tabetic condition, and the knowledge that he was supposed to have had former attacks of gastric crisis, the latter diagnosis was made tentatively.

A hypodermic of one-quarter of a grain of morphin did not relieve him, and in thirty minutes another one-quarter of a grain was given. This relieved him slightly.

At six the next morning, he was suffering more acutely, there was marked generalized abdominal